Remarks/Arguments:

This is a reply to the office action of June 2, 2004, in which the claims then presented were rejected on formal grounds and over prior art.

1. Claim rejections under 35 USC § 112

We believe there is no need to claim any heating means in claim 1. For someone skilled in the art it is clear that an evaporator is not necessarily provided with heating means. Evaporation can take place under low pressure as well, e. g. produced with a vacuum pump. For instance, a speed vac can be used. Someone skilled in the art knows these alternative ways of evaporating a sample and thus will not be obliged to use heating means in all cases.

The term "receiving opening" has been replaced by "receptacle" in all the claims. A receptacle is understood to have a depth and walls and should therefore be in accordance with 35 USC § 112.

Claim 18 was amended by changing "cooling part inserted into the receiving opening" to "cooling part confining the receptacle at least partly". Supporting disclosure for this amendment is found in Fig. 3, where the cooling part 4 forms the bottom wall of the receptacle 3.

The dependence of claim 21 was changed. Claim 21 is now dependent on claim 20, where the first annular gap is introduced.

In claim 22, the term "leading" has been replaced by "passing".

Former claim 23 was divided into two claims; thus new claim 29 was added.

The dependency of claim 24 was amended such that there is an antecedent basis for "second annular gap"

In claim 25 "a third annular gap" was amended to "an annular gap". The annular gap claimed in claim 25 is not directly associated to the first and the second annular gap introduced in claims 20 and 21.

Claim 27 was rewritten as a method claim.

Claim 28 is cancelled without prejudice.

With these amendments, the examiner's objections are in view of 35 USC §112 are overcome.

2. Claim rejections under 35 USC 102

The examiner found that claims 15-17, 22, 26-28 are anticipated by Lautenschläger (5,858,178). The applicant respectfully disagrees with this opinion.

Lautenschläger discloses a device for preparing or extracting samples. Basically, the device is a Soxhlet apparatus wherein the samples are extracted with a solvent which is recycled in a closed loop. This is illustrated in Fig. 4: The solvent is filled in a chamber 127 where it is heated. The vapor rises through a channel 131 in a condensating chamber 129. There, it is condensated on the cooling body 151 which is shaped such that the condensate drops into the sample vessel and onto the sample. When a predetermined level 138 is reached in the sample vessel, the solvent is emptied into chamber 127 via overflow 137d.

Soxhlet apparatus are used for extracting components of a sample, e. g. for the

extraction of fat of an organic compound, and are well known in the art. The cooling device is arranged separate form the retaining opening for the sample and is used to condense evaporated solvent. No part of he sample vessel itself is cooled.

Contrary to this, the present invention is related to an evaporator. The use of an evaporator is completely different from the use of a Soxhlet apparatus. Commonly, the sample in the evaporator is brought to boil by the supply of heat or by the reduction of pressure. The vapor is removed and is not used in a closed loop. Therefore, it is not intended that any condensate flows back into the sample vessel. According to claim 15 of the present invention, the cooling section is provided in such a way that the sample vessel itself is cooled in a predetermined section and the sample is evaporated up to a residual volume.

As pointed out in claim 27, a part of the sample vessel is actively cooled during evaporation. This is obviously not the case with the device disclosed by Lautenschläger.

Therefore, independent claims 15 and 27 are new over Lautenschläger. Thus, the dependent claims are new as well.

Further, it is submitted that the present invention is also nonobvious over Lautenschläger.

The object of the present invention is to provide a holding device for the use in an evaporator, where the evaporation of the sample in the sample vessel takes place up to a predetermined residual volume.

This object is solved by providing a cooling section in the receptacle for the sample vessel and by actively cooling a section of the sample vessel such that the sample is

evaporated up to a residual volume. This solution is not rendered obvious by Lautenschläger. The device disclosed by Lautenschläger belongs to a different field and is related to distillation. It is commonly known to use cooling devices for facilitate the condensation of a distillate. The cooling device however is arranged separately and the sample vessel is not cooled at all.

In the evaporator art, it is commonly known not to cool the sample vessel. It requires therefore an inventive, non-obvious step to recognize the advantages of providing a cooling section in an holding device for an evaporator and to actively cool a part of the sample vessel during the evaporation. This step is not rendered obvious by a distillation device or a Soxhlet apparatus, as there the sample vessel is not cooled at all. The fact that an external cooling device can be used for condensation of vapor gives no motivation to someone skilled in the art to cool the sample vessel itself.

For these reasons, independent claims 15 and 27 are inventive over Lautenschläger. Accordingly the dependent claims are inventive over Lautenschläger as well.

b) The examiner also rejected claims 15-17 and 26-28 as being anticipated by Meyer (US 4,933,146). This rejection is respectfully traversed.

Meyer discloses a temperature control device for chemical analyzers. A chemical reaction should take place at a predefined and controlled temperature, e.g., 30°C or 37°C (col. 6, line 17). To reach this condition, the sample vessel is surrounded by a chamber containing a refrigerant as Freon. The refrigerant is heated to the desired temperature.

Therefore, the chamber can not be regarded as a cooling section; actually, it is a heating section. The refrigerant is not a cooling means but rather a heating means for restoring stable temperature conditions. Importantly, it does not allow once to cool a

sample vessel such that a sample in the vessel is evaporated up to a residual volume, and the sample vessel is not actively cooled.

Furthermore, the present invention is not related to a reaction chamber for an analyzer but to an evaporator. The two inventions thus belong to different fields.

For these reasons, independent claims 15 and 27, and the claims which depend from them, are deemed new over Meyer.

Nor is invention rendered obvious by Meyer. There is no motivation given in the whole document to cool the sample vessels in a cooling section. In contrary, the temperature values indicated to be useful are between 30°C and 37°C which would lead someone skilled in the art away from cooling the sample down. Also, the sample vessels are heated over their entire surface. Thus no motivation is given to someone skilled in the art to cool the sample vessels locally in a cooling section.

c) Claims 15-17, 22 and 27-28 were further rejected as being anticipated by McClurg (US 3,940,249).

McClurg discloses a holding device for several sample vessels which need to be held at a constant low temperature. The holding device has a base portion with a plurality of recesses to receive the sample vessels. The base portion is hollow with a coolant therein. The sample vessels are positioned on the base portion aligned into the recesses. No means for evaporation are provided. The holding device simply replaces a refrigerator or a crushed ice bath where the samples can be stored. The present invention, however, is related to an evaporator. The sample vessel is not only held in the holding device, but at the same time a sample is treated such that the sample is evaporated up to a residual volume. The cooling of the sample is performed at the same time as the evaporation.

For these reasons, independent claims 15 and 27 and the claims which depend from them are new over McClurg.

The present invention is also non-obvious over McClurg, because someone skilled in the art has no motivation to provide a holding device as disclosed by McClurg for cooling only a part of a sample vessel in an evaporator. To the contrary, it is commonly known that evaporation is improved by increasing temperature, and the prior art provides no motivation to decrease the temperature of a sample at all. Nothing in McClurg suggests combining a conventional evaporator with such a holding device. Therefore, the independent claims 15 and 27 are not rendered obvious by McClurg.

We believe that the claims presented distinguish the invention from the prior art and that this application is now in condition for allowance.

Respectfully submitted,

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